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EXAMINER	
VU, NGOC K	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,843	HORN ET AL.	
	Examiner	Art Unit	
	Ngoc K. Vu	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-94* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54,56-85 and 87-94* is/are rejected.

7)☒ Claim(s) *55 and 86* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/18/02 and 3/4/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-94 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-86 of copending Application No. 09/792,364 in view of Kermode et al. (U.S. Patent 6,018,359 A).

With respect to claims 1, 43, 44, 68, 69 and 94 of the instant application, claims 1 and 75 of the co-pending application include all recited limitations in claims 1, 43, 44, 68, 69 and 94 of the instant application. The co-pending application claims do not explicitly disclose the feature of waiting to receive an entire block before playing out the block. However, Kermode teaches that a segment is not actually played back until it is download in its entirely. This condition ensures that no segment will be played before its beginning has been downloaded (see col. 7, lines 21-24; col. 6, lines 37-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the claims of the co-pending application by including the feature of waiting to receive an entire block before playing out the block as taught by Kermode in order to properly playback the program.

With respect to claims 2-42, 45-67, 70-93 of the instant application, they are provisionally rejected under the judicially created doctrine of obviousness-type double patenting because they recite the similar scope of the claims 2-74 of the co-pending application.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is contradictable and thereby renders the claim indefinite. Claim 6 recites the limitation "a maximum downloaded rate at the client is unconstrained". However, the specification of the instant application discloses that the rate is constrained (see specification: page 10, lines 1-4).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12, 14, 15, 17-19 and 21-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Kermode et al. (U.S. 6,018,359 A).

Regarding claim **1**, Kermode discloses a method of scheduling a media object for transmission between a server (100 – see figure 1) and a client (115, 120 – see figure 1), the method comprising:

partitioning the media object into segments of blocks (a video file, such as movie, is divided into a series of sequentially organized data segments), wherein each block is a unit of media for which the client will wait to receive an entire block before playing out the block a segment is not actually played back until it is download in its entirely. This condition ensures that no segment will be played before its beginning has been downloaded), and wherein each segment includes an integer number of blocks (each data segment having an internal temporal order) (see col. 4, lines 29-32; col. 6, lines 37-44; col. 7, lines 21-23 and abstract);

determining one or more channels on which to serve each segment, the channels capable of carrying data between the server and the client (all segments for a particular movie are transmitted over one or more channels from the server to the receiver – see col. 5, lines 15-18 and 59-62 and col. 6, lines 9-13);

determining a rate at which to serve each segment (determining download rate of the segments - see col. 8, lines 19-29); and

determining a schedule pair for each channel, the schedule pair including a time at which the client may start receiving on the channel and a time at which the client may stop receiving on the channel (data is loaded asynchronously over channel P_A, so that download may commence at an arbitrary time t' and continue until time t' is reached during the next iterative transmission of the segment. That is, the receiver can begin

downloading segment from a new channel as soon as a previous segment has been fully downloaded – see col. 6, lines 14-31).

Regarding claim **2**, Kermode discloses that if the client minimally fulfills the schedule pair for each channel, the client will be able to play out the media object uninterrupted after a startup latency (see col. 9, lines 14-16; col. 5, lines 53-62; col. 6, lines 37-44).

Regarding claims **3 and 4**, Kermode discloses dividing the video file into a plurality of sequentially organized data segments, each data segment has an internal temporal order (see abstract).

Regarding claims **6-8 and 17**, Kermode discloses that segments are preferably downloaded at a rate at least equal to the playback rate, and desirably faster than the playback rate. When the segments reach the loaded as fast as it is consumed for display, and is received over a single channel, the data cannot be received at a rate greater than the playback rate (see col. 7, lines 7-9; col. 8, lines 8-11 and 22-26).

Regarding claims **9-12, 31, 34, 36-38**, Kermode teaches that at least one segment includes one or more block internally, and the blocks in the segment are same size (see abstract and col. 4, lines 29-31).

Regarding claim **14**, Kermode teaches that at least two segments have different sizes (see col. 6, lines 45-65).

Regarding claim **15**, Kermode teaches that each block in each segment is transmitted over one channel having the same rate (see col. 7, lines 7-14).

Regarding claims **18, 19, and 28**, Kermode teaches that segments are served on two channels at a same rate (see col. 7, lines 7-9; col. 5, lines 59-62).

Regarding claims **21 and 23**, Kermode discloses that the number of channels is equal to a number of concurrent channels at the client or served by the server (see col. 5-6, lines 62-4).

Regarding claim **22**, Kermode discloses that the client can minimally fulfill the schedule pair for each channel by downloading from a maximum number of concurrent channels, e.g., two channels (see col. 5, lines 59-62).

Regarding claims **24, 25, and 30**, Kermode teaches determining one or more channels, rate, a schedule pair steps are performed so as to optimize a server bandwidth required to provide the video file to client at a rate (e.g., playback rate) less than or equal to a maximum client download rate (download rate) (see col. 7, lines 7-9 and 60-62; col. 8, lines 6-29).

Regarding claim **26**, Kermode teaches determining a size of the segments so that the segment is completely downloaded by the client prior to when the segment is due to be played out (see col. 7, lines 21-24).

Regarding claim **27**, Kermode teaches the rate at which to serve the segments is an integer multiple of a base rate (see col. 6, lines 45-57).

Regarding claim **29**, Kermode teaches the receivers receive segments over two channels. The receiver can begin download segment from a new channel as soon as a previous segment has been fully downloaded (see col. 6, lines 16-20; col. 7, lines 36-40; col. 5, lines 59-62).

Regarding claims **32, 33, and 39**, Kermode teaches that sizes of segments are each less than or equal to a maximum segment size, wherein the maximum segment size is based on a maximum available storage at the client (see col. 5, lines 53-58 and col. 8, lines 56-60).

Regarding claim **35**, Kermode teaches determining block size by an encoding scheme (see col. 8, lines 30-33; col. 9, lines 20-23).

Regarding claims **40-42**, Kermode teaches that segment is served on at least two channels, wherein a rate at which the segment is served on ore of the at least two channels varies over time (see col. 5, lines 59-62; col. 7, line 66 col. 8, line 29).

Regarding claim **43**, Kermode discloses a system for scheduling a media object for transmission between a server (100 – see figure 1) and a client (115, 120 – see figure 1), comprising:

a module for partitioning the media object into segments of blocks (a video file, such as movie, is divided into a series of sequentially organized data segments), wherein each block is a unit of media for which the client will wait to receive an entire block before playing out the block a segment is not actually played back until it is download in its entirely. This condition ensures that no segment will be played before its beginning has been downloaded), and wherein each segment includes an integer number of blocks (each data segment having an internal temporal order) (see col. 4, lines 29-32; col. 6, lines 37-44; col. 7, lines 21-23 and abstract);

a module for determining one or more channels on which to serve each segment, the channels capable of carrying data between the server and the client (all segments for a particular movie are transmitted over one or more channels from the server to the receiver – see col. 5, lines 15-18 and 59-62 and col. 6, lines 9-13);

a module for determining a rate at which to serve each segment (determining download rate of the segments - see col. 8, lines 19-29); and

a module for determining a schedule pair for each channel, the schedule pair including a time at which the client may start receiving on the channel and a time at which the client may stop receiving on the channel (data is loaded asynchronously over

channel P_A, so that download may commence at an arbitrary time t' and continue until time t' is reached during the next iterative transmission of the segment. That is, the receiver can begin downloading segment from a new channel as soon as a previous segment has been fully downloaded – see col. 6, lines 14-31).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 69-74, 77, 80-84 and 91-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Krause et al. (US 5,926,205 A).

Regarding claim **69**, Krause discloses a method of receiving a media object that includes segments of blocks, wherein each segment includes an integer number of blocks, and wherein each block is a unit of media for which a client will wait to receive an entire block before playing out the block (see col. 6, lines 42-51; col. 7, lines 12-16), the method comprising:

receiving a media object description (video segment identification information) of the media object (see col. 7, lines 12-16 and 42-45);

joining and leaving each of a plurality of channels according to the media object description to download the segments (during each transmission of the interleaved data stream over channels, a receiver must be able to identify the elements of the particular video segment to be accessed, reconstructed and displayed, wherein the video segment identifiers are inserted into the interleaved sequence of elements as they are being transmitted to the receivers – see col. 12, lines 24-52; col. 6, lines 42-62);

reassembling the blocks in each segment (assembling the received elements in each segment – see col. 7, lines 12-33); and

playing the blocks out in an order after a startup latency (the receiver plays the video program by assembling, for each video segment, the subsequence of elements representative of the segment – see col. 8, lines 44-65; col. 9, lines 48-65; col. 12, lines 24-60).

Regarding claims **70 and 71**, Krause discloses that the receiver begins to reconstruct a video program from its beginning, the receiver selects and assembles each element having a sequence number of 1 during the first pass, followed by the elements having a sequence number of 2 during the second pass and so on. The receiver identifies the elements of the video segment to be accessed, reconstructed and displayed based on video segment identification information (see col. 12, lines 24-60).

Regarding claims **72-74**, Krause discloses broadcasting segments via channels (see col. 5-6, lines 64-4; col. 7, lines 34-41).

Regarding claim **77**, Krause discloses that data is downloaded by a client at an unconstrained rate (see col. 7, lines 3-6).

Regarding claims **80-82**, Krause discloses that the receiver begins to reconstruct a video program from its beginning, the receiver selects and assembles each element having a sequence number of 1 during the first pass, followed by the elements having a sequence number of 2 during the second pass and so on. Krause further discloses that video segments which make up the video programs are essentially time-division multiplexed over sub-channels of the channel over which the video program is broadcast. The receiver can therefore be made to reconstruct and present any of the video segments to the subscriber by selecting the sub-channel carrying the desired segment. This is also related to the rate at which the data stream can be transmitted

over the distribution network as well as the rate at which data must be received by the receiver to permit real-time reconstruction of the video segments (see col. 5-6, lines 53-4; col. 6, lines 52-67; col. 12, lines 24-60).

Regarding claim **83**, Krause teaches that the receiver increases its reception rate when it experience no congestion and decreases its reception rate when it experiences congestion since the receiver is permitted real-time reconstruction of the video segments at the desired level of the picture quality (see col. 5-6, lines 59-4).

Regarding claim **84**, Krause teaches that reassembling the blocks in each segment includes reordering the original data according to its temporal position in each block (see col. 12, lines 24-45).

Regarding claim **91**, Krause teaches playing a pre-downloaded segment during the startup latency (see col. 9, lines 42-44 and 48-51).

Regarding claim **92**, Krause teaches that the video program is downloaded by a receiver from a maximum number of channels concurrently (see col. 5-6, lines 64-2).

Regarding claim **93**, Krause teaches that segment is download via channels varies over time (see col. 6, lines 59-67).

Regarding claim **94**, Krause discloses a system for receiving a media object that includes segments of blocks, wherein each segment includes an integer number of blocks, and wherein each block is a unit of media for which a client will wait to receive an entire block before playing out the block (see col. 6, lines 42-51; col. 7, lines 12-16), comprising:

a module for handling input of a media object description (receiving video segment identification information) of the media object (see col. 7, lines 12-16 and 42-45);

a module for handling for channel joins and channel leaves for each of a plurality of channels according to the media object description to download the segments (during each transmission of the interleaved data stream over channels, a receiver must be able to identify the elements of the particular video segment to be accessed, reconstructed and displayed, wherein the video segment identifiers are inserted into the interleaved sequence of elements as they are being transmitted to the receivers – see col. 12, lines 24-52; col. 6, lines 42-62);

a module for handling for reassembling the blocks in each segment (assembling the received elements in each segment – see col. 7, lines 12-33); and

a module for handling for playing the blocks out in an order after a startup latency (the receiver plays the video program by assembling, for each video segment, the subsequence of elements representative of the segment – see col. 8, lines 44-65; col. 9, lines 48-65; col. 12, lines 24-60).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 85 and 87-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (US 5,926,205 A).

Regarding claim **85**, Krause discloses that the receiver processes reassembling and decoding the segment (see col. 8, lines 44-53). Krause does not explicitly disclose a FEC decoder for decoding. Official Notice is taken that FEC unit is used to perform error correction and decoding to output the video signal is well known in the art. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the receiver of Krause by including FEC unit in order to perform error correction and decoding to output the video signal.

Regarding claims **87-90**, Krause shows that video segments are provided from server 31 to receiver 32 as illustrated in figure 2 (see figure 2). Krause does not specifically disclose the video segments are provided from at least two servers. Official Notice is taken that providing video programs from two or more servers to subscribers over the network is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by providing video programs from two or more servers to receivers in order to accommodate large number of clients.

11. Claims 13, 16, and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kermode et al. (U.S. 6,018,359 A) in view of Bolosky et al. (US 6,134,596 A).

Regarding claims **13, 16 and 20**, Kermode teaches serving segments over two channels (see col. 5, lines 59-62). Kermode does not explicitly teach serving at different rates. However, Bolosky teaches that the system is configured to deliver data streams at multiple data rates. That is, the system delivers of multiple data streams at different data rates (see col. 11, lines 17-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kermode by serving data streams at different data rates as taught by Bolosky in order to make efficient use of storage and network resources.

12. Claims 75 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (US 5,926,205 A) in view of Bolosky et al. (US 6,134,596 A).

Regarding claims **75 and 76**, Krause does not disclose a plurality of segments are downloaded concurrently at an aggregate rate, and wherein the aggregate rate is less than a maximum download rate. However, Bolosky discloses that data streams 0-8 have one of four different data rates ranging from 1 to 4 Mb/s, while each server network card has a maximum data rate of 10 Mb/s (see col. 14, lines 4-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by providing data streams at a rate that is less than a maximum data rate as taught by Bolosky in order to efficiently transmit data to clients over the network.

13. Claims 78 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (US 5,926,205 A) in view of Kermode et al. (U.S. 6,018,359 A).

Regarding claims **78 and 79**, Krause does not explicitly download rate is greater than or less than play out rate. However, Kermode discloses that segments are preferably downloaded at a rate at least equal to the playback rate, and desirably faster than the playback rate. When the segments reach the loaded as fast as it is consumed for display, and is received over a single channel, the data cannot be received at a rate greater than the playback rate (see col. 7, lines 7-9; col. 8, lines 8-11 and 22-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by including download rate is greater than or less than playback rate as taught by Kermode in order to provide high quality playback the video data.

14. Claims 44-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (US 5,926,205 A) in view of Task (US 6,732,325 A).

Regarding claim **44**, Krause discloses a method of serving a media object, the method comprising:

receiving segments of a media object, wherein each segment includes an integer number of blocks, wherein each segment includes an integer number of blocks, and wherein each block is a unit of media for which a client will wait to receive an entire block before playing out the block (see col. 6, lines 42-51; col. 7, lines 12-16);

for each segment, receiving an indication of one or more channels on which to serve the segment (e.g., video segment identification information - see col. 7, lines 12-16 and 42-45);

for each segment, receiving a rate at which to server the segment (e.g., transmission rate - see col. 7, lines 1-7);

determining an order in which to encode blocks (see col. 8, lines 54-62);

transmitting each segment at the corresponding rate over a channel (see col. 7, lines 1-7).

Krause does not specifically disclose each block including one or more input symbols and generating output symbols for each block and transmitting the output symbols on the corresponding one or more channels. However, Tash discloses that a source first gathers K symbols from the incoming data stream to form a block, then the K symbols are encode by an encoder to produce N encoded symbols. The N encoded symbols are transmitted to a receiver over channels (see col. 9, lines 47-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by transmitting stream of data over a channel to a receiver including input and output symbols as taught by Tash in order to efficiently perform error correction.

Regarding claim **45**, Krause discloses providing one or more storage devices (26 – see figure 2) on which to store the video program.

Regarding claims **46 and 47**, Krause discloses receiving a transmission rate at which to serve the segment on channel (see col. 7, lines 1-6).

Regarding claim **48**, Krause discloses providing multiple overlapping presentations the video program from server 31 (see figure 2 and col. 5, lines 48-56).

Regarding claims **49-51**, Krause discloses Krause shows that video segments are provided from server 31 to receiver 32 as illustrated in figure 2 (see figure 2). Krause does not specifically disclose the video segments are provided from at least two servers. Official Notice is taken that providing video programs from two or more servers to subscribers over the network is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by providing video programs from two or more servers to receivers in order to accommodate large number of clients.

Regarding claims **51-54**, Krause discloses broadcasting segments via channels (see col. 5-6, lines 64-4; col. 7, lines 34-41).

Regarding claim **56**, Tash as modified Krause further teaches a FEC code (see col. 1, lines 54-56).

Regarding claims **57 and 58**, Tash as modified Krause further teaches that all of the output symbols in a block are generated prior to transmitting any of the output symbols in the block and each of or all of the output symbols is generated upon a first transmission of the output symbol on the channel (see col. 5, lines 1-10; col. 9, lines 23-28).

Regarding claims **59 and 61**, Tash as modified Krause further teaches determining an order in which to transmit output symbols corresponding to a block, and transmitting output symbols includes transmitting output symbols corresponding to a block in the order (see col. 5, lines 1-10; col. 9, lines 23-28).

Regarding claims **60 and 62**, Tash as modified Krause further teaches the order is determined according to random or pseudo-random sequence (see col. 5, lines 41-48).

Regarding claim **63**, Tash as modified Krause further teaches that input symbols are used as output symbols (see col. 9, lines 47-60).

Regarding claim **64**, Tash as modified Krause further discloses that a server transitions between serving a first piece of stream and a second piece of stream by successively stopping the serving of segments for the first piece of stream and successively starting the servings of segments for the second piece of stream (see col. 14, line 54 to col. 15, line 3).

Regarding claims **65-67**, Tash as modified Krause further discloses transmitting data streams over channels at multiple data rates (see col. 11, lines 17-25; col. 14, lines 4-10).

Regarding claim **68**, Krause discloses an apparatus for serving a media object, the method comprising:

a block encoder (64 – see figure 2) receiving segments of a media object, wherein each segment includes an integer number of blocks, wherein each segment includes an integer number of blocks, and wherein each block is a unit of media for which a client will wait to receive an entire block before playing out the block (see col. 6, lines 42-51; col. 7, lines 12-16), an input to receive an order in which to encode blocks (see col. 8, lines 54-62);

a transmitter (within server 31 – see figure 2) coupled receiving an indication of one or more channels on which to serve the segment (e.g., video segment identification information - see col. 7, lines 12-16 and 42-45) and a rate at which to server the

segment (e.g., transmission rate - see col. 7, lines 1-7); and the transmitter configured to serve each segment at the corresponding rate over a channel (see col. 7, lines 1-7).

Krause does not specifically disclose each block including one or more input symbols and generating output symbols for each block and transmitting the output symbols on the corresponding one or more channels. However, Tash discloses that a source first gathers K symbols from the incoming data stream to form a block, then the K symbols are encode by an encoder to produce N encoded symbols. The N encoded symbols are transmitted to a receiver over channels (see col. 9, lines 47-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Krause by transmitting stream of data over a channel to a receiver including input and output symbols as taught by Tash in order to efficiently perform error correction.

Allowable Subject Matter

15. Claims **55** and **86** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information

and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on _____.
(Date)

Typed or printed name of person signing this certificate:

_____

Signature: _____

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (703)_____ - _____ on _____.
(Date)

Typed or printed name of person signing this certificate:

_____

Signature: _____

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc K. Vu whose telephone number is 703-306-5976. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on 703-305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ngoc K. Vu
Examiner
Art Unit 2611

March 15, 2005